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**(54) IDENTIFICATION AND SEPARATION METHOD
AND APPARATUS FOR PARTICLE**

(57) Abstract:

PURPOSE: To enable identification of a plurality of particles at one time using a matched filter or the like, by wrapping blood cell particles into a fluid one at a time at an interval in such a manner that they will not overlap in the depth-wise direction of an incident light.

CONSTITUTION: Light leaving a laser 1 is made incident on a collimator 3 passing through an optical path switching optical system 2 and a parallel luminous flux of the laser light expanded here passes through an optical information modulator 4 to form a measuring field of view in a flow chamber 5. As cell particles flow down through the chamber 5 to enter the measuring field of view, light diffracted by each cell particle is focused with a lens 6 and an object light is made parallel with the lens 6. Furthermore, an image of the particle in the measuring field of view expanded by expansion optical systems 6 and 7 is formed on a post focal plane of a lens 7. Then, an identification signal of the particle matching a matched filter 11 therewith undergoes an

inverse Fourier transform on the post focal plane of an image lens 12. The filter 11 is capable of identifying information on the geometry or the like of several types of particle simultaneously by one filter with single exposure.

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